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10/693,399	10/24/2003	Benjamin S. Fields	98427.00004	1925

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EXAMINER

CHU, GABRIEL L

ART UNIT	PAPER NUMBER
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2114

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/693,399

Applicant(s)

FIELDS ET AL.

Examiner

Gabriel L. Chu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 8, 10-13, 15, 16 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 6, 9, 14 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20040419</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

1. Claims 8, 9, 16, 17 objected to because of the following informalities:

Referring to claim 8, 16, "a flight data recorder and" is understood to refer to "and".

Referring to claim 9, 17, "time pressure" is understood to refer to "time, pressure".

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1, 4, 5, 11-13, 19, 20 rejected under 35 U.S.C. 102(e) as being anticipated by US 6704885 to Salas-Meza et al. (herein SM).** Referring to claim 1,

SM discloses a system for effecting redundant data storage, comprising:

a device that includes a local memory storage (Figure 2, element 23.), a first communication element that permits communication with a remote data storage location (Figure 2, element 31. From line 64 of column 3, "Both the client 21 and backup server

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22 are interconnected through some means of connection 31, such as a serial, intranetwork, internetwork, telephonic, infrared, or similar interface or combination thereof.”), and a chip that is programmed with an instruction set (From line 51 of column 3, “The individual computer systems, including intranetwork clients 11, mobile clients 16, remote clients 17, and centralized server 12, are general purpose, programmed digital computing devices consisting of a central processing unit (CPU), random access memory (RAM), non-volatile secondary storage, such as a hard drive or CD ROM drive, network interfaces, and peripheral devices, including user interfacing means, such as a keyboard and display. Program code, including software programs, and data are loaded into the RAM for execution and processing by the CPU and results are generated for display, output, transmittal, or storage.”),

and a remote data storage location that includes a second communication element that permits communication with said first communication element (Figure 2, element 31. From line 64 of column 3, “Both the client 21 and backup server 22 are interconnected through some means of connection 31, such as a serial, intranetwork, internetwork, telephonic, infrared, or similar interface or combination thereof.”),

wherein said instruction set includes: (i) one or more commands that cause automatic communication with said memory storage on a predetermined periodic basis to determine whether contents within said local memory storage have been modified relative to a prior communication with said memory storage; and (ii) one or more commands that cause automatic communication between said first communication element and said second communication element if it is determined that contents within

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said local memory storage have been modified relative to said prior communication with said local memory storage, said communication being effective to reposit said contents in a redundant manner within said remote data storage location (From line 37 of column 5, "The backup date 62 column stores the last date upon which the file 52 was successfully backed up. The file date 63 column stores, as file attributes, the date and time of the last modification to the file 52." From 1 of column 6, "Between backup sessions, the data set 27 is tracked (block 81) for addition, modifications and deletions. Generally, the data set 27 is tracked indirectly by the operating system, which automatically places a date and time stamp on the individual files 52 (shown in FIG. 3) in the data set 27 upon creation or modification. At the stochastically scheduled time, as explained further below with reference to FIG. 11, the backup session application 25 wakes up (block 82), that is, is activated to attempt a data backup session. If the client 21 busy processing other tasks (block 83), the backup session application 25 waits (block 84) for a predetermined time period. A default time period of ten minutes is used in the described embodiment." From line 66 of column 7, "During the first processing loop (blocks 131-139), each file 52 is retrieved (block 132) and, if present in the index file 50 (block 133), checked for changed file attributes (block 135). If the file attributes have changed (block 135), the file 52 is copied into the backup data set (block 136). Otherwise, the file 52 is skipped. In the described embodiment, changed file attributes are detected by comparing the date and time of the file 52 against the file date 63 stored in corresponding entry 61 in the index file 50. Other techniques for detecting changed file attributes are feasible. If the retrieved file 52 is not in the index file 50 (block 133), a

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new entry 61 is made in the index file 50 (block 134) and the file 52 is copied (block 136). If the file copying is successful (block 137), the backup date 62 in the corresponding entry 61 in the index file 50 is updated (block 138) and iterative processing continues with the next file 52. Otherwise, if the file copying was unsuccessful (block 137), the routine returns.”).

4. Referring to claim 4, 13, SM discloses said automatic communication between said first communication element and said second communication element is wireless (Figure 2, element 31. From line 64 of column 3, “Both the client 21 and backup server 22 are interconnected through some means of connection 31, such as a serial, intranetwork, internetwork, telephonic, infrared, or similar interface or combination thereof.”).

5. Referring to claim 5, SM discloses said automatic communication between said first communication element and said second communication element is wired (Figure 2, element 31. From line 64 of column 3, “Both the client 21 and backup server 22 are interconnected through some means of connection 31, such as a serial, intranetwork, internetwork, telephonic, infrared, or similar interface or combination thereof.”).

6. Referring to claim 11, 19, SM discloses said contents of said local memory storage define a send data object for communication to said remote data storage location (From line 66 of column 7, “During the first processing loop (blocks 131-139), each file 52 is retrieved (block 132) and, if present in the index file 50 (block 133), checked for changed file attributes (block 135). If the file attributes have changed (block 135), the file 52 is copied into the backup data set (block 136).”).

7. Referring to claim 12, SM discloses A method for establishing redundant data storage for data stored within a mobile device (From line 34 of column 3, "The distributed computing environment 10 consists of a plurality of individual clients 11 interconnected with a centralized server 12 via an intranetwork 13. In turn, the clients 11 and centralized server 12 are connected to an internetwork 15, such as the Internet, through a router 14. Mobile clients 16 and other remote clients 17 can access the intranetwork 13 via the internetwork 15. Other network topologies and configurations of machines and network resources are feasible."), comprising:

(a) providing said mobile device with a local memory storage (Figure 2, element 23.), a first communication element that permits communication with a remote data storage location (Figure 2, element 31. From line 64 of column 3, "Both the client 21 and backup server 22 are interconnected through some means of connection 31, such as a serial, intranetwork, internetwork, telephonic, infrared, or similar interface or combination thereof."), and a chip that is programmed with an instruction set (From line 51 of column 3, "The individual computer systems, including intranetwork clients 11, mobile clients 16, remote clients 17, and centralized server 12, are general purpose, programmed digital computing devices consisting of a central processing unit (CPU), random access memory (RAM), non-volatile secondary storage, such as a hard drive or CD ROM drive, network interfaces, and peripheral devices, including user interfacing means, such as a keyboard and display. Program code, including software programs, and data are loaded into the RAM for execution and processing by the CPU and results are generated for display, output, transmittal, or storage."),

wherein said instruction set includes: (i) one or more commands that cause automatic communication with said memory storage on a predetermined periodic basis to determine whether contents within said local memory storage have been modified relative to a prior communication with said memory storage; and (ii) one or more commands that cause automatic communication between said first communication element and a second communication element associated with a remote data storage location if it is determined that contents within said local memory storage have been modified relative to said prior communication with said local memory storage; (b) automatically determining whether data stored within said local memory storage has been modified; and (c) if data stored within said local memory storage has been modified, automatically communicating said data to a remote data storage location (From line 37 of column 5, "The backup date 62 column stores the last date upon which the file 52 was successfully backed up. The file date 63 column stores, as file attributes, the date and time of the last modification to the file 52." From 1 of column 6, "Between backup sessions, the data set 27 is tracked (block 81) for addition, modifications and deletions. Generally, the data set 27 is tracked indirectly by the operating system, which automatically places a date and time stamp on the individual files 52 (shown in FIG. 3) in the data set 27 upon creation or modification. At the stochastically scheduled time, as explained further below with reference to FIG. 11, the backup session application 25 wakes up (block 82), that is, is activated to attempt a data backup session. If the client 21 busy processing other tasks (block 83), the backup session application 25 waits (block 84) for a predetermined time period. A default time



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period of ten minutes is used in the described embodiment.” From line 66 of column 7, “During the first processing loop (blocks 131-139), each file 52 is retrieved (block 132) and, if present in the index file 50 (block 133), checked for changed file attributes (block 135). If the file attributes have changed (block 135), the file 52 is copied into the backup data set (block 136). Otherwise, the file 52 is skipped. In the described embodiment, changed file attributes are detected by comparing the date and time of the file 52 against the file date 63 stored in corresponding entry 61 in the index file 50. Other techniques for detecting changed file attributes are feasible. If the retrieved file 52 is not in the index file 50 (block 133), a new entry 61 is made in the index file 50 (block 134) and the file 52 is copied (block 136). If the file copying is successful (block 137), the backup date 62 in the corresponding entry 61 in the index file 50 is updated (block 138) and iterative processing continues with the next file 52. Otherwise, if the file copying was unsuccessful (block 137), the routine returns.”).

8. Referring to claim 20, SM discloses communication data from said remote data storage location to said local memory storage of said mobile device (Figure 2, element 31 is bidirectional. Figure 8 shows self-update over connection 31.).

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. **Claim 2, 3 rejected under 35 U.S.C. 103(a) as being unpatentable over US 6704885 to SM as applied to claim 1 above, and further in view of CPU by Microsoft Computer Dictionary (herein MSCD).** Referring to claim 2, 3, SM discloses said chip is a semiconductor chip or a chip set (From line 51 of column 3, "The individual computer systems, including intranetwork clients 11, mobile clients 16, remote clients 17, and centralized server 12, are general purpose, programmed digital computing devices consisting of a central processing unit (CPU)".).

Although SM does not specifically disclose that such a CPU may be on a single chip or a microprocessor, single chip CPUs are very well known in the art. An example of this is shown by MSCD (with emphasis), "Mainframes and early minicomputers contained circuit boards full of integrated circuits that implemented the central processing unit. **Single-chip** central processing units, called **microprocessors**, made possible personal computers and workstations." A person of ordinary skill in the art at the time of the invention would have been motivated to use a single-chip processor because, as disclosed by MSCD above, "Single-chip central processing units, called microprocessors, made possible personal computers and workstations", and SM discloses the use of a CPU in "The individual computer systems, including intranetwork clients 11, mobile clients 16, remote clients 17, and centralized server 12".

11. **Claim 7, 8, 15, 16 rejected under 35 U.S.C. 103(a) as being unpatentable over US 6704885 to SM as applied to claim 1 above, and further in view of US 6154637 to Wright et al.** Referring to claim 7, 15, although SM does not specifically disclose said device may be a black box recorder associated with an airliner,

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communicating black box data is known in the art. An example of this is shown by Wright, from line 10 of column 2, "In accordance with the present invention, the above-described objective of periodically analyzing flight performance data, without having to physically access a redundant unit on board the aircraft, is successfully addressed by means of a wireless ground data link, through which flight performance data provided by airborne data acquisition equipment is stored, compressed, encrypted and downloaded to an airport-resident ground subsystem, which forwards flight performance data files from various aircraft to a flight operations control center for analysis. For purposes of providing a non-limiting example, in the description of the present invention, the data acquisition equipment will be understood to be a DFDAU." Further, from line 24 of column 1, "Modern aircraft currently operated by the commercial airline industry employ airborne data acquisition (ADA) equipment, such as a digital flight data acquisition unit (DFDAU) as a non-limiting example, which monitor signals supplied from a variety of transducers distributed throughout the aircraft, and provide digital data representative of the aircraft's flight performance based upon such transducer inputs. As flight performance data is obtained by the acquisition equipment, it is stored in an attendant, physically robust, flight data recorder (commonly known as the aircraft's "black box"), so that in the unlikely event of an in-flight mishap, the flight data recorder can be removed and the stored flight performance data analyzed to determine the cause of the anomaly." A person of ordinary skill in the art at the time of the invention would have been motivated to backup black box recorder data because, from line 34 of column 1 of Wright, "so that in the unlikely event of an in-flight mishap, the flight data recorder can

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be removed and the stored flight performance data analyzed to determine the cause of the anomaly. In a further effort to improve aircraft safety, rather than wait for an accident to happen before analyzing flight recorder data, the Federal Aviation Administration (FAA) has issued a draft advisory circular AC-120-XX, dated Sep. 20, 1995, entitled "Flight Operational Quality Assurance Program" (FOQA), which recommends that the airlines look at the information provided by the digital flight data acquisition unit at regular intervals."

12. Referring to claim 8, 16, SM in view of Wright discloses said black box recorder includes data collected by at least one of a cockpit voice recorder, a flight data recorder, a flight data recorder and a flight data acquisition unit (Wright, from line 10 of column 2, "In accordance with the present invention, the above-described objective of periodically analyzing flight performance data, without having to physically access a redundant unit on board the aircraft, is successfully addressed by means of a wireless ground data link, through which flight performance data provided by airborne data acquisition equipment is stored, compressed, encrypted and downloaded to an airport-resident ground subsystem, which forwards flight performance data files from various aircraft to a flight operations control center for analysis. For purposes of providing a non-limiting example, in the description of the present invention, the data acquisition equipment will be understood to be a DFDAU." Further, from line 24 of column 1, "Modern aircraft currently operated by the commercial airline industry employ airborne data acquisition (ADA) equipment, such as a digital flight data acquisition unit (DFDAU) as a non-limiting example, which monitor signals supplied from a variety of transducers distributed

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throughout the aircraft, and provide digital data representative of the aircraft's flight performance based upon such transducer inputs. As flight performance data is obtained by the acquisition equipment, it is stored in an attendant, physically robust, flight data recorder (commonly known as the aircraft's "black box"), so that in the unlikely event of an in-flight mishap, the flight data recorder can be removed and the stored flight performance data analyzed to determine the cause of the anomaly." ).

13. **Claim 10, 18 rejected under 35 U.S.C. 103(a) as being unpatentable over US 6704885 to SM as applied to claim 1 above, and further in view of "encryption" by MSCD.** Referring to claim 10, 18, although SM does not specifically disclose said chip is further programmed to cause encryption of said contents before communication to said remote data storage location, encrypting data prior to transmission is very well known in the art. An example of this is shown by MSCD, "The process of encoding data to prevent unauthorized access, especially during transmission." A person of ordinary skill in the art at the time of the invention would have been motivated to encrypt the data because, from MSCD, "to prevent unauthorized access".

***Allowable Subject Matter***

14. **Claim 6, 9, 14, 17 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.** Referring to claim 6, the prior art does not teach or fairly suggest said device is selected from the group consisting of a personal digital assistant, a cellular phone, a camera, a laptop computer, a desk top computer, a watch, a disc player, a server and a silo.

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15. Referring to claim 9, 17, the prior art does not teach or fairly suggest said contents of local memory storage includes data selected from the group consisting of pre-amplified sounds from the cockpit, pre-amplified voices from the cockpit, time, pressure, altitude, airspeed, vertical acceleration, magnetic heading, control-column position, rudder-pedal position, control-wheel position, horizontal stabilizer, fuel flow and combinations thereof.

16. Referring to claim 14, the prior art does not teach or fairly suggest said mobile device is selected from the group consisting of a personal digital assistant, a cellular phone, a camera, a laptop computer, a watch, a disc player, a server and a silo.

### ***Conclusion***

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See notice of references cited.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gabriel L. Chu whose telephone number is (571) 272-3656. The examiner can normally be reached on weekdays between 8:30 AM and 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Baderman can be reached on (571) 272-3644. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Gabriel L. Chu  
Examiner  
Art Unit 2114

gc